

REMARKS

This Amendment is responsive to the Office Action identified above, and is further responsive in any other manner indicated below.

NON-ENTRY OF INFORMATION DISCLOSURE STATEMENT - TRAVERSED

Applicant's previously-submitted Information Disclosure Statement (IDS) has been refused entry, apparently on a basis that Applicant utilized a listing/format other than a Form PTO-1449 to list references. **Strong traversal is appropriate, as there is no basis for denying entry.** The specific **REQUIREMENT** under 37 CFR §1.98(a)(1) is for "**a list** of all patents, publications, applications, or other information submitted for consideration by the Office." More particularly, MPEP §609 states "Applicants are encouraged to use the USPTO forms when preparing an information disclosure statement." The term "encouraged" does not mean "mandatory," and there is no authorization within the MPEP or elsewhere for denying entry when a different (*i.e.*, non-USPTO form) type of listing/format is used. For convenience, submitted herewith is another copy of Applicant's previously-submitted listing, and Applicant respectfully requests return of an Examiner-initialed copy indicating that the information (*i.e.*, references) listed thereon has been considered. Applicant respectfully thanks the Examiner in advance for such initialing/consideration.

PENDING CLAIMS

Claims 1-10 were pending, under consideration and subject to examination in the Office Action. Appropriate claims have been amended and/or added in order to adjust a clarity and/or focus of Applicant's claimed invention. That is, such changes

are unrelated to any prior art, scope adjustment or rejection, and are simply refocused claims in which Applicant is present interested. At entry of this paper, Claims 1-20 will be pending for consideration and examination in the application.

ALL REJECTIONS UNDER 35 USC §§102 AND 103 - TRAVERSED

All 35 USC rejections are respectfully traversed. In support of such traversal, all descriptions of Applicant's disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated herein by reference. Further, all Office Action statements regarding the prior art rejections are respectfully traversed. As additional arguments, Applicant respectfully submits the following.

In order to properly support a §102 anticipatory-type rejection, any applied art reference must disclose each and every limitation of any rejected claim. The applied art does not adequately support a §102 anticipatory-type rejection because, at minimum, such applied art does not disclose (or suggest) the following discussed limitations of Applicant's claims.

One object of the present invention is to provide an open-type MRI magnet device in which a space required for arranging a magnetic shim is reduced. As a result, it is possible to increase a space for a subject person or reduce the distance between upper and lower superconductive magnets arranged to oppose to each other, thereby improving the efficiency of superconductive magnets. Still another object is to provide a device in which the magnetic shim is arranged in a region assuring its magnetization linearity, thereby facilitating optimization of the magnetic shim position and enabling an effective magnetic field uniformity adjustment work.

The present invention uses an open-type superconductive magnet equipped with a magnetic shim (shims) which serves as means for adjusting magnetic field uniformity and is arranged in a pair of magnetic assemblies and more specifically, on an opposing surface side of a cooling vessel, i.e., a uniform static magnetic field space side. In terms of relevant claim language, independent Claim 1, for example, recites "magnetic field adjusting means arranged at the uniform static magnetic field space side of the cooling vessel, so as to further adjust the magnetic field uniformity of the uniform static magnetic field space region."

Further, ones of the added claims recite "wherein the magnetic field adjusting means is arranged between the uniform static magnetic field space and the cooling vessel." Still further, other ones of the added claims recite "wherein the magnetic field adjusting means is arranged along a cooling vessel side-wall which faces the uniform static magnetic field space." Finally, still other ones of the added claims recite "wherein ones of the magnetic field adjusting means are provided on differing layers arranged between the uniform static magnetic field space and the cooling vessel."

Turning now to rebuttal of the applied art, Eckels *et al.* (at best), teaches external shim drawer 36 disposed on pole piece 12. Accordingly, Eckels *et al.* does not disclose (or suggest) "magnetic field adjusting means arranged at the uniform static magnetic field space side of the cooling vessel."

Still further, Eckels *et al.* does not disclose the features/limitations of the added claims, i.e., "wherein the magnetic field adjusting means is arranged between the uniform static magnetic field space and the cooling vessel," or "wherein the magnetic field adjusting means is arranged along a cooling vessel side-wall which

faces the uniform static magnetic field space,” or “wherein ones of the magnetic field adjusting means are provided on differing layers arranged between the uniform static magnetic field space and the cooling vessel.”

In addition to the foregoing, the following additional remarks from Applicant's foreign representative are submitted in further support of traversal of the rejection and the patentability of Applicant's claims.

As to the rejection of Claims 1, 2, 4, 7, 8 and 9 over Eckels *et al.*, in Eckels *et al.*, the passive shim 36 is arranged at outside of the Pole Piece, that is, it is arranged outside the static magnetic field space 20. On the other hand, in the present invention, the magnetic field adjusting means is arranged at the static magnetic field space side of the cooling vessel. Since the magnetic field adjusting means is not arranged at the static magnetic field space side in Eckels *et al.*, the present invention is very different from Eckels *et al.*

Turning now to rebuttal of McGinley *et al.*, McGinley *et al.* does not clearly/explicitly show its cooling system, *i.e.*, at best, McGinley *et al.*'s Column 4, lines 8-10 text only briefly mentions a cryostat arrangement. The items 14, 16, 18, 20, 22, 24 are only flux return paths, and it is respectfully noted that any attempt to characterize such items as McGinley *et al.*'s cryostat arrangement would be proper to traverse as if such items served to define the cryostat container, the imaging volume 12 would likewise be flooded with cryostat fluid. Since McGinley *et al.*'s cooling system is not clearly/explicitly disclosed, McGinley *et al.* does not disclose (or suggest) “magnetic field adjusting means arranged at the uniform static magnetic field space side of the cooling vessel.”

Still further, McGinley *et al.* does not disclose the features/limitations of the added claims, *i.e.*, “wherein the magnetic field adjusting means is arranged between the uniform static magnetic field space and the cooling vessel,” or “wherein the magnetic field adjusting means is arranged along a cooling vessel side-wall which faces the uniform static magnetic field space,” or “wherein ones of the magnetic field adjusting means are provided on differing layers arranged between the uniform static magnetic field space and the cooling vessel.”

As to the rejection of Claims 8-10 over McGinley *et al.* ('838), in McGinley *et al.*, there is no disclosure concerning a magnetic field adjusting means corresponding to a magnetic shim of the present invention. In McGinley *et al.*, a plurality of magnetized rings are arranged at the gradient magnetic coils in a concentric manner to correct the static magnetic field. However, since the magnetic rings are symmetry in a circular direction, the magnetic field can be corrected only in a radius direction, not in a circular direction. Accordingly, in McGinley *et al.*, it is intended that the uniformity of the static magnetic field is roughly adjusted as a whole by the magnetized rings. That is, the magnetized rings have a function similar to that of static magnetic field adjusting coils. By the magnetized rings, the uniformity of the static magnetic field cannot be finely adjusted in a desired direction.

On the other hand, in the present invention, in addition to the magnetic field adjusting coils by which the uniformity of the static magnetic field is roughly adjusted as a whole, at least one magnetic shim is arranged at the static magnetic space side of the respective containers. By the magnetic shim, the uniformity of the static magnetic field can be finely adjusted in a desired direction. Accordingly, the present invention is very different from McGinley *et al.*

Given that neither Eckels *et al.* nor McGinley *et al.* disclose (or suggest) “magnetic field adjusting means arranged at the uniform static magnetic field space side of the cooling vessel,” it is respectfully submitted that no combination of such references would have disclosed or suggested Applicant’s invention. Further, no combination of such references would have disclosed or suggested the features/limitations of Applicant’s added claims (discussed above), or those of the dependent claims. None of the other applied references cure this major deficiency.

As a result of all of the foregoing, it is respectfully submitted that the applied art would not support a §102 anticipatory-type rejection or §103 obviousness-type rejection of Applicant’s claims. Accordingly, reconsideration and withdrawal of such §§102 and 103 rejections, and express written allowance of all of the rejected claims, are respectfully requested. Further, at this point, it is respectfully submitted as a reminder that, if new art is now cited against any of Applicant’s unamended claims, then it would not be proper to make a next Action final.

EXAMINER INVITED TO TELEPHONE

The Examiner is invited to telephone the undersigned at the local D.C. area number of 703-312-6600, to discuss an Examiner’s Amendment or other suggested action for accelerating prosecution and moving the present application to allowance.

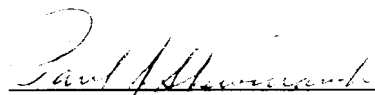
CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that all of the claims listed above as presently being under consideration in

the application are in condition for allowance. Accordingly, allowance of such claims is respectfully requested.

This Amendment is being submitted within the shortened statutory period set by the 28 May 2003 Office Action, and therefore, no Petition or fee is required. To whatever other extent is actually appropriate, Applicant respectfully petitions the Commissioner for an extension of time under 37 CFR §1.136. Further, no additional claim fees are required. Please charge any fees actually due in connection with the filing of this paper to ATS&K Deposit Account No. 01-2135 (as Case 500.41391X00).

Respectfully submitted,



Paul J. Skwierawski
Registration No. 32,173
ANTONELLI, TERRY, STOUT & KRAUS, LLP
1300 North Seventeenth Street, Suite 1800
Arlington, Virginia 22209-3801, USA
Telephone 703-312-6600
Facsimile 703-312-6666